

ABSTRACT

A data collection and automatic database population system which combines global positioning system (GPS), speech recognition software, radio frequency (RF) communications, and geographic information system (GIS) to allow rapid capture of field data, asset tracking, and automatic transfer of the data to a GIS database. A pre-defined grammar allows observations to be continuously captured along with GPS location and time, and stored on the field mobile unit. A mobile unit's location is tracked in real time or post processed through wireless RF transmission of location information between the mobile unit and a central processing station. The captured data is electronically transferred to a central processing station for quality assurance and automatic population of the GIS database. The system provides for automatic correlation of field data with other GIS database layers. Tools to generate predefined or user defined reports, work orders, and general data queries allow exploitation of the GIS database.